San Bernardino Valley College
Curriculum Approved: January 24, 2005

I. COURSE INFORMATION:

A. Division: Science and Math
Department: Architecture
Course ID: ARCH 120
Course Title: Introduction to Computer Aided Drafting
Units: 4
Lecture Hours: 2
Laboratory Hours: 6
Prerequisite: none
Co requisite: none
Dept. Advisory: CS 110

B. Catalog Description: An introduction to the theories and principles of computer-aided design/drafting (CAD) using AutoCAD and to its principal applications in the fields of architecture, design, manufacturing, construction, and planning are explored. The technical aspects of generating, evaluating, modeling drafting and rendering design solutions will be introduced.

Schedule Description: This course introduces students to the theories and principles of computer-aided design/drafting (CAD) and to its principal applications in the fields of architecture, design, manufacturing, construction, and planning. The technical aspects of generating, evaluating, modeling drafting and rendering design solutions will be introduced.

II. NUMBER OF TIMES COURSE MAY BE TAKEN FOR CREDIT: 1

III. EXPECTED OUTCOMES FOR STUDENTS:

Upon successful completion of the course, the student should be able to:

A. Formulate and organize a drawing system by CAD file naming management
B. Construct a CAD drawing file
C. Differentiate and utilize common CAD tools for drawing
D. Utilize various coordinate entry systems
E. Select and modify existing CAD files

IV. COURSE CONTENT:

A. Review Auto CAD components and organization
B. Evaluate the components of the CAD system and their applications
C. Examine applications of CAD techniques
    1. Architecture
    2. Manufacturing
    3. Design
    4. Planning
D. Create and name new CAD drawing file
E. Evaluate the Drawing Editor
F. Open, retrieve, and save drawing files
G. Draw basic elements
    1. Point, lines, circles, arcs
    2. Modify and manipulate shapes
H. Text Management Data Fields
I. Control lines, colors, and layers
J. Apply editing commands
K. Utilize coordinate systems
L. Manipulate drawing
M. Apply design tools to several applications
N. Print and evaluate for presentation quality

V. METHODS OF INSTRUCTION: (Please check all that apply and add any additional not listed.)

X Lecture
x Class and/or small group discussion
Critical evaluation of texts, newspapers, slides, photographs
Critical evaluation of films, videotapes, slides, photographs, audiotapes or other media forms
x Classroom demonstrations
x Field trips
x Guest speakers
x Individual consultation
x Computer presentations
x Group projects and individual projects

VI. TYPICAL OUT-OF-CLASS ASSIGNMENTS:

A. Reading Assignment. Reading assignments are required and may include (but are not limited to) the following: Read Chapter on AutoCAD components from your text and evaluate the applications of CAD to design.
B. Writing Assignment. Writing assignments are required and may include (but are not limited to) the following: After reviewing the applications of CAD to manufacturing, describe the application process to microswitches.
C. Critical Thinking Assignment. Critical thinking assignments are required and may include (but are not limited to) the following: You are asked to design a deck for the area outside our classroom. What factors will you need to consider before you can begin your design?

VII. EVALUATION:

A student's grade will be based on multiple measures of performance and will reflect the objectives explained above. A final grade of "C" or better should indicate that the student has the ability to successfully apply the principles and techniques taught in this course. These evaluation methods may include, but are not limited to, the following (Please check all that apply, and add additional ones not listed):

x Portfolios
x Projects
_____ Written papers or reports
_____ Presentations (oral and visual)
_____ Work performance (internships or field work)
x Lab work
x Comprehensive examinations (cumulative finals or certifications)
_____ Peer evaluation
x Self evaluation
_____ Classroom participation
x Homework exercises
x Final Exam, written and graphic
X Other: Field experience

VIII. TYPICAL TEXTS:

A. AutoCAD-LT 2005 for Dummies, Middlebrook, Mark; Wiley, 2005.
B. Introducing AutoCAD2005, Stellman, Thomas and Krishnan, G.V.; Thompson Learning, 2004.
C. AutoCAD 2005 and AutoCAD LT 2005 – No Experience Required, Frey, David; Sybex, 2004.

IX. OTHER SUPPLIES REQUIRED OF STUDENTS: None